

**University of Mumbai**  
**Examination 2020- Inter Cluster**

Program: BE Instrumentation Engineering

Curriculum Scheme: Revised 2016/2012

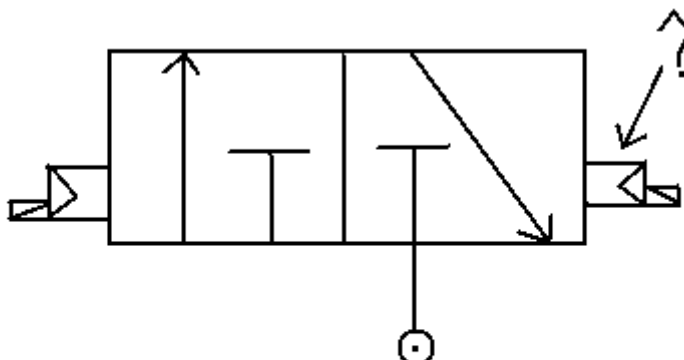
Examination: Third Year Semester V

Course Code and Course Name: ISC 504 and Control System Components

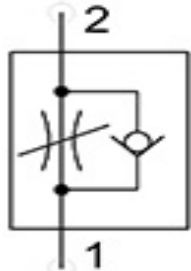
Time: 1hour

Max. Marks: 50

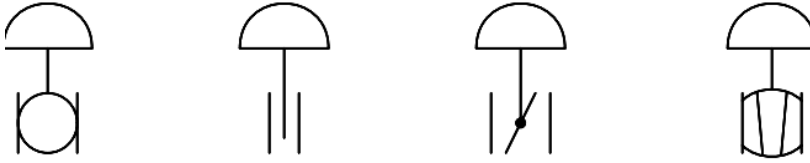
Note to the students: - All Questions are compulsory and carry equal marks.

Q1.	<p>What is the part, shown in below diagram of 3/2 valve, called?</p> <div style="text-align: center;">  <p><i>3/2 direction control valve</i></p> </div>
Option A:	manually operated valve
Option B:	pilot operated valve
Option C:	pressure electric converter
Option D:	Pushbutton operated valve
Q2.	In pneumatic systems, a sensor serves a purpose of
Option A:	Transmission
Option B:	Control
Option C:	storage
Option D:	Feedback
Q3.	Which one of the following is not true about use of air in pneumatics?
Option A:	Air is available every where
Option B:	Air requires non return lines

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Option C:	Air is explosive
Option D:	Air is non-pollutant
Q4.	The diagram shown below is 
Option A:	Unidirectional valve
Option B:	Bidirectional valve
Option C:	Non Return valve
Option D:	Sequence valve
Q5.	The _____ converts the compressed air energy into mechanical energy in the form of linear movement in one direction only.
Option A:	Piston cylinders
Option B:	Double acting cylinders
Option C:	Single acting cylinders
Option D:	Hydraulic pumps
Q6.	Which of the following statements are true? 1. Bell housing connects motor and pump 2. Centrifugal pump is a non-positive displacement pump 3. Centrifugal pumps allow the back flow of fluid from delivery side to the suction side of the pump 4. The function of vent plug used in a reservoir is to flush out oil
Option A:	1, 2 and 4
Option B:	2, 3 and 4
Option C:	2 and 3
Option D:	2 and 4
Q7.	A flow in which the quantity of liquid flowing per second is constant is called _____ flow.
Option A:	Steady
Option B:	Streamline
Option C:	Turbulent
Option D:	Unsteady

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Q8.	Standard electrical transmitter signal is
Option A:	0-20mA <sub>dc</sub>
Option B:	1-20MA <sub>dc</sub>
Option C:	4-20mA <sub>dc</sub>
Option D:	3-15mA <sub>dc</sub>
Q9.	Standard pneumatic transmitter signal is
Option A:	0-3psig
Option B:	3-15psig
Option C:	4-20psig
Option D:	0-15psig
Q10.	In smart transmitter signal conditioning is carried out in
Option A:	Processor
Option B:	Transducer housing
Option C:	Network interface
Option D:	Data bus
Q11.	The correct identities of the four control valve types shown below are (in order from left to right): 
Option A:	Plug, Slide, Rotary, Ball
Option B:	Globe, Butterfly, Disc, Ball
Option C:	Ball, Gate, Butterfly, Plug
Option D:	Diaphragm, Gate, Disc, Globe
Q12.	Cavitation in a control valve is caused by:
Option A:	process noise
Option B:	vibration in the piping
Option C:	a laminar flow regime
Option D:	pressure recovery
Q13.	Which Material of construction is preferred when the valves are going to be fitted for a desalination plant?
Option A:	SS316 L
Option B:	SS304
Option C:	Duplex
Option D:	SS 316

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Q14.	Regardless of type, all valves have the following basic parts, with the exception of
Option A:	bonnet
Option B:	nipple
Option C:	actuator
Option D:	body
Q15.	Which one of the following valve parts is NOT usually considered to be a part of the pressure boundary?
Option A:	body
Option B:	seal rings
Option C:	bonnet
Option D:	disk
Q16.	Which of the following types of valve uses a flow control element that involves moving a disc or plug into or against an orifice?
Option A:	gate and plug valves
Option B:	globe and gate valves
Option C:	globe and needle valves
Option D:	butterfly and diaphragm valves
Q17.	All of the following are general types of check valves EXCEPT _.
Option A:	butterfly
Option B:	plug
Option C:	swing
Option D:	tilting disc
Q18.	When must a smoke alarm be replaced?
Option A:	every 5 years
Option B:	every 10 years
Option C:	every 20 years
Option D:	never
Q19.	Which one is not a feeder
Option A:	Shaker
Option B:	Vibratory
Option C:	Revolving plate
Option D:	Butterfly
Q20.	DPDT has
Option A:	One NO terminal
Option B:	One NC terminal
Option C:	Two NO terminal
Option D:	Two NC terminal
Q21.	NO stands for
Option A:	Naturally open

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Option B:	Normally ON
Option C:	Normally Open
Option D:	Naturally ON
Q22.	NC stands for –
Option A:	Normally Close
Option B:	Normally contact
Option C:	Naturally close
Option D:	Naturally contact
Q23.	In inverse characteristic of relay as current increase operation time will be
Option A:	Increase
Option B:	Decrease
Option C:	Remain same
Option D:	Not related
Q24.	Which is not an advantage of static relay?
Option A:	Fast speed
Option B:	Less maintenance
Option C:	Less burden
Option D:	Less Price
Q25.	Thermal relays are often used in
Option A:	Generator protection
Option B:	Transformer protection
Option C:	Motor starters
Option D:	Motor protection